



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/645,620

08/22/2003

Tyler J. Gomm

M4065.0733/P733

8264

24998

7590

04/06/2006

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP

2101 L Street, NW

Washington, DC 20037

EXAMINER

GEISEL, KARA E

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/645,620	<b>Applicant(s)</b> GOMM ET AL.	
	<b>Examiner</b> Kara E. Geisel	<b>Art Unit</b> 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 22-24 and 26-39 is/are allowed.
- 6) ☒ Claim(s) 10-15, 17-20 and 25 is/are rejected.
- 7) ☒ Claim(s) 16 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 recites the limitation "said dynamic test image" in line 2. There is insufficient antecedent basis for this limitation in the claim. In order to correct the antecedent basis, this claim should depend from claim 24.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10-14, and 17-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bross et al. (USPN 5,596,185) in view of Smith (USPN 5,694,053), both previously cited.

In regards to claim 10, Bross discloses an apparatus (fig. 1) and method for testing a plurality of image sensors (32 and column 3, lines 1-8) comprising a digital light processing control system (34-36) comprising an image generator (20, 34-36) for generating static and dynamic digital test images (the image can be any the user desires) and a test image director for simultaneously directing one of the dynamic and static images onto a plurality of image sensors (32). It is not specifically disclosed that the apparatus has an image sensor signal detector for sensing respective signals from the image sensors, however the invention is directed towards testing image sensors (column 1, lines 1-10). It is obvious that there would need to be a means, such as a detector, to detect the image signal the image sensors produce after sensing the generated digital test image in order to determine if the image sensors are working up to standards and furthermore, by having the detector correlate the test image to the plurality of signals from the image sensors, the user can determine a discrepancy in the image signals, and therefore, an error in the image sensors.

For example, Smith discloses a similar apparatus and method for testing a plurality of image sensors (fig. 6) comprising a digital light processing control system (1 and an LCD) capable of generating digital test images and directing the images onto a plurality of image sensors (columns 6-7, lines 60-67 and 1-12). Furthermore the apparatus and method include an image sensor signal detector (17) that correlates the test image to the plurality of signals from the image sensors (columns 6-7, lines 60-67 and 1-12). This is done in order to determine an error in the image sensors. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Bross's apparatus, an image sensor signal detector in order to detect the signals the image sensor produce and compare them to the test image in order

Art Unit: 2877

to determine if the image sensors are working up to standards, or if there is an error in the image sensors.

In regards to claims 11-12, and 14, it would be up to the user to determine what type of images to use, and with the control system of the invention, the images can be any image desired, including one single image, a plurality of images, static images, or dynamic images such as moving geometrical shapes, depending on the type of sensor being tested.

In regards to claim 13, the digital light processing control system (fig. 1) comprises a light source (10), a digital micromirror device (20) for converting light from the light source into a digital test image, collimating optics (12) for directing light from the light source onto the digital micromirror device, and focusing optics (28, 30), for focusing the digital test image onto an image sensor (32).

In regards to claim 17, it is not disclosed in the combined method and apparatus what type of light source is used. However it is disclosed that the light should be able to uniformly illuminate the digital micromirror device. This would be done in order to reduce errors in the measured image sensor signal. The examiner takes Official Notice, that it is well known that a uniform DC light source would be able to illuminate the digital micromirror device uniformly, and that it would be obvious to use this light source as an alternate embodiment of the light source in order to illuminate the device uniformly.

In regards to claim 18, Gross discloses an apparatus (fig. 1) for automated testing of image sensors (32 and column 3, lines 1-8) comprising a digital light processing control system (34-36) comprising a light source (10), a digital micromirror device (20) for converting light from the light source into at least one of a static and a dynamic digital test image (column 1, lines 39-44), collimating optics (12) for directing light from the light source onto the digital micromirror device, and focusing optics (28, 30), for focusing the digital test image onto an image sensor (32). It is not specifically disclosed that the apparatus has an image sensor signal detector, however the

Art Unit: 2877

invention is directed towards testing image sensors (column 1, lines 1-10). It is obvious that there would need to be a means, such as a detector, to detect the image signal the image sensors produce after sensing the generated digital test image in order to determine if the image sensors are working up to standards and furthermore, by having the detector correlate the test image to the plurality of signals from the image sensors, the user can determine a discrepancy in the image signals, and therefore, an error in the image sensors.

For example, Smith discloses a similar apparatus for testing a plurality of image sensors (fig. 6) comprising a digital light processing control system (1 and an LCD) capable of generating digital test images and directing the images onto a plurality of image sensors (columns 6-7, lines 60-67 and 1-12). Furthermore the apparatus include an image sensor signal detector comprising an input means for inputting a continuous signal from an image sensor device under test (17), and a means for automatically comparing a signal from an image sensor device under test to test images inputted by the digital light processing control system (columns 6-7, lines 51-67 and 1-12). This is done in order to determine an error in the image sensors. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include in Bross's apparatus, Smith's image sensor signal detector in order to detect the signals the image sensor produce and compare them to the test image in order to determine there is an error in the image sensor.

In regards to claims 19-20, the system is testing a plurality of image sensors (Bross column 3, lines 1-8). Furthermore, it would be up to the user to determine what type of images to use, and with the control system of the invention, the images can be any image desired, including one single image, or a plurality of images, depending on the type of sensor being tested.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bross et al. (USPN 5,596,185) in view of Smith (USPN 5,694,053), both previously cited, as applied to

Art Unit: 2877

claims 10-15, 17-20, 22-31, 33-37 and 39 above, and further in view of Halvis (USPN 5,120,960), newly cited.

In regards to claim 15, the combined apparatus is silent to the specific type of sensor that is being tested. However, the invention is directed to testing these sensors, and not the type of sensors it tests, and furthermore, it is disclosed that any infrared picture-resolving sensor could be tested (Bross column 4, lines 15-25).

Halvis discloses an infrared picture-resolving sensor (fig. 2). This sensor comprises a plurality of CMOS pixel arrays arranged with a space between each array (column 14, lines 20-38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to test Halvis' sensor using the combined apparatus since it is an infrared picture-resolving sensor, and the combined apparatus could improve the resolution and accuracy of the sensor.

#### *Allowable Subject Matter*

Claims 1-9 and 22-24, and 26-39 are allowed over the prior art of record for the reasons set forth in the previous Office Action (paper number 0905).

Claims 16, 21, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, for the reasons set forth in the previous Office Action (paper number 0905).

Claim 25 would be allowable if rewritten to overcome the 35 U.S.C. 112, second paragraph, set forth in this Office action.

#### *Response to Arguments*

Applicant's arguments filed January 6<sup>th</sup>, 2006 have been fully considered but they are not persuasive. The Bross reference is silent to how the signals were processed after the image sensors detected the signals, though it is obvious through the specification that processing is



Art Unit: 2877

required to determine if the image sensors are working properly (for example column 1, lines 5-38). Smith was combined with the Bross reference as a general way to show that after the image sensors detect the test images an image sensor signal detector was needed in order to detect the signals the image sensor produced and compare them to the test image in order to determine if the image sensors are working up to standards, or determine if there is an error in the image sensors. An image sensor signal detector is no more than the computer connected to the sensors, capable of reading the signal and processing it for errors. This signal detector, receives the signals electronically, and would not be affected by whether the device it is getting the signals from is IR or visible, and using the computer in Smith's reference to do the same sort of processing in Bross' apparatus would not require a modification of one or both of the references that would change the principle of operation of the prior art invention being modified, as asserted by the applicant for this reason. Therefore, the rejection to the claims which have not been amended to overcome this, has been maintained.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



Art Unit: 2877

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in this Office Action mailed. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Art Unit: 2877

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*KG.*

KEG  
March 21, 2006

*for*

Gregory J. Toatley, Jr.  
SPE  
Art Unit 2877

*[Signature]*